

## A B S T R A C T

A METHOD AND APPARATUS FOR MEASURING THE PROPAGATION TIME  
OF A SIGNAL, IN PARTICULAR AN ULTRASOUND SIGNAL

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A method of measuring the propagation time  $T_p$  of an  
ultrasound signal between two spaced-apart transducers,  
one constituted by an emitter and the other by a  
receiver, the emitter transducer being subjected to an  
10 excitation signal causing an ultrasound wave to be  
emitted towards the receiver transducer, said ultrasound  
wave causing the receiver transducer to output a receive  
signal, the method comprising the following steps:

- beginning a measurement of an intermediate  
15 propagation time  $T_{int}$  at the beginning of emitter  
transducer excitation;

- detecting the receive signal output by the  
receiver transducer and counting the oscillations in said  
receive signal;

- 20 • stopping the measurement of the intermediate  
propagation time  $T_{int}$  when an  $i^{th}$  oscillation is detected;  
and

- determining the propagation time  $T_p$  of the signal  
by taking the difference  $T_{int} - i \times T_e$ .

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